

**Enclosure (2)**

First Named Inventor:	Schommer, John E.
Application Number:	09/901,155
Filing Date:	10 July 2001
Group Art Unit:	3752
Examiner Name:	Christopher S. Kim
Title:	<b>WATER CONSERVING AND CLEANING APPARATUS</b>

**REMARKS**

Applicant would like to briefly summarize some novel features of the present invention to perhaps assist the Examiner. Specifically these remarks are directed to claim 1 and claims 22-24.

The first novel feature relates to the use of the Venturi effect. Claim 1 has been amended to add “..an optimum air flow...”. Applicant believes the present invention is novel in the explicit use of the Venturi effect that combines air and water in an intentionally and specifically directed manner to produce unexpected, greatly improved, and novel results. Please note claim 4 that states in part “..further comprises a two level cantilevered porch with **specifically designed angles and heights** to function as a **fluid flow director, directing air flow under said water conserving apparatus to provide optimum air flow and a Venturi effect** under said water conserving apparatus.” (Underlined and bold added). In the background section, Applicant makes the statement “None (referring to prior art) use air to assist in cleaning, nor do any use air to conserve water.” In the summary section,

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Applicant states in part “ Thus, a minimum of water is required when combined with an air stream to provide maximum pressure at a specific target angle to the surface to be cleaned therefore, complete and rapid cleaning is achieved with an order of magnitude savings in water conservation when compared to the prior art.” See also claims 5 and 6. Also, the enclosed documentation and affidavit support the unexpected, greatly improved, and novel results.

The next feature is the cone-shaped filter. Claims 22-24 explicitly claim the use of the annular ring to collect impurities as they slide down the cone. This functional arrangement is novel. Applicant is not claiming solely a cone-shaped filter, but the functionality of the related structural components. In addition to the ability to quickly hand twist off the hand grip to specifically shake the particulates off the annular ring, another means is implied. If one removes the hose attached to the handle, and the user inverts the handle, the water remaining in the handle will back flush through the cone-shaped filter and wash out the particulates without twisting off the hand grip. This is another unique advantage of the present invention.

In the specification: The Applicant respectfully requests that the changes to the specification be allowed. On page 8, line 14 and page 13, lines 13-15, the language

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has been amended to more clearly reflect the drawings, and the language has been amended for clarity. Moreover, Applicant respectfully directs the Examiner's attention to page 9, line 4 of the specification, which describes **Figure 2**. The wording in part is "All three 30, 32, and 34 are extruded from a single piece...." The Applicant has corrected the inconsistent wording in page 5, lines 14, 24 and page 16, line 3 that refer to "integral" and "integrally manufactured" that are synonyms with "extruded". The word "extruded" has been added for clarity. In the Applicant's opinion, no new matter has been entered.

In the drawings:

The drawings are objected to under 37 CFR 1.83 (a). The drawings must show every feature of the invention specified in the claims.

In response to the drawing objections, Claim 3 has been canceled. Figure 4 has been corrected to show the  $\partial_1$  recited in claims 10 and 11; the  $\partial_2$  recited in claims 5 and 6; the  $\partial_3$  recited in claim 12; and the  $\partial_4$  recited in claim 14. In addition, Figure

5 has been corrected to show the  $\partial_5$ , instead of alpha 5. Element number 36a in Figure 5 has been made formal. Therefore, Applicant respectfully requests that the

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drawings be allowed.

### **Claim Rejections-35 USC 112**

Claims 2-24 were rejected under 35 USC 112 second paragraph as being indefinite to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation “several feet” in line 2. It is uncertain how many feet are being claimed.

Claim 2 has been amended to delete “several feet”.

Claim 3 is canceled.

Regarding Claim 6, the recitation “minimum” and “maximum” render the claim indefinite. Neither the specification nor the claims define such limits.

Claim 6 has been amended to incorporate claims 7 and 8 language to definitively recite the claim.

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Claims 7 and 8 are canceled.

Regarding Claim 11, the recitations “widest” and “maximum” render the claim indefinite.

Claim 11 had been amended to delete “widest” and “maximum”.

Regarding claims 2, 9, and 24, the recitation “vicinity” renders the claim indefinite.

Claims 2, 9, and 24 have been amended to recite “proximate to a” to more clearly reflect the drawings, specifically Figure 2.

Throughout Claims 5, 8, and 9-24, it is uncertain whether the recitations following “preferred” or “preferably” is a positively recited limitation.

Claims 5, and 9-10 have been amended to clarify the positively recited limitation where “preferred” or preferably” is recited.

Claim 5 has been amended.

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Claim 8 is canceled.

Claim 9 has been amended.

Claim 10 has been amended.

Claims 11 and 16 recite preferably or preferred in a positively recited limitation.

Claims 11 and 16 remain in their original form, except for depending from a different claim.

Claims 12-15 are canceled. They are incorporated into claim 10.

Claims 17-21 are canceled.

Claims 22-24 do not recite "preferred" or "preferably". Therefore, claims 22-24 remain in their original form.

Therefore, Applicant respectfully requests that Claims 2, 4-6, and 9-11, 16, and 22-24 be allowed.

Claim Rejections- 35 USC 102.

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Claims 1 and 2 are rejected under 35 U.S.C. 102 (b) as being anticipated by Russell et al.

Russell teaches away from the present invention. Specifically, Russell's Claim 1 preamble states in part "...apparatus for injecting a fluid below a soil surface..." (Column 3, line 52). Yet, the present invention is directed to a "water conserving and cleaning apparatus" as stated in the preamble to multiple claims. The "means 34" is a skid whose function "...satisfies the requirements for providing a low friction contact with the soil surface 25..." (Column 2, lines 52-54). No inference or teaching explains that a Venturi effect is created, nor is it a part of the Russell invention. Also, claim 1 has been amended to insert "...an optimum air flow and...".

More specifically, Russell in claim 1 states in part "...said pumping means and said nozzles cooperate to inject said fluid substantially below said soil surface..." (Column 4, lines 16-18). On the other hand, the present invention in Claim 1 of the present invention (lines 5-7) provides "...means for creating a Venturi effect in said apparatus, thereby providing a water saving feature and a highly effective cleaning feature." Russell describes a compressor (Figure 1) ... "for the highly pressurized fluid..." (Column 3, line 2) On the other hand, no compressor is described with the

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present invention. Therefore, the Applicant respectfully suggests that Russell et al is not relevant and does not anticipate the present invention in Claims 1 and 2. And so, Applicant respectfully requests that Claims 1 and 2 be allowed.

Claim 2 is rejected under 35 U.S.C. 102 (b) as being anticipated by Geel. Geel describes "...pipes 15 and 16..." (Column 3, line 14) not a jet manifold. The comparable element in the present invention is a "...horizontal cylinder 30..." (Line 18). The jet manifold 26 of the present invention is comprised of three major elements: The jet manifold **26** is further comprised of numerous elements. A horizontal cylinder **30**, a forward wing **32**, and a rear wing **34** are the three major elements. (Lines 17-19) Therefore, the Applicant respectfully suggests that Geel is not relevant and does not anticipate the present invention in Claim 2 as amended.

Claim Rejections- 35 USC 103 (a)

Claims 3-11 are rejected under 35 USC 103 (a) as being unpatentable over Russell et al. in view of Maasberg.



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Claim 3 is canceled. Claims 7 and 8 are canceled. Regarding Claims 4 and 6 of the present invention, Russell teaches away from the present invention. Specifically, Russell's Claim 1 preamble states in part "...apparatus for injecting a fluid below a soil surface..." (Column 3, line 52). Yet, the present invention is directed to a "water conserving and cleaning apparatus" as stated in the preamble to multiple claims. The "means 34" is a skid whose function is to "...satisfies the requirements for providing a low friction contact with the soil surface 25..." (Column 2, lines 52-54). The skid 34 is not a wing. The present invention describes the wings. "Also illustrated is the jet manifold 26 directing air flow 44. Yet another novel feature is the rear wing 34. The rear wing 34, integral to the jet manifold 26, includes a two level cantilevered porch 46 with specifically designed angles and heights to provide optimum air flow 44 and a Venturi effect under the water conserving apparatus 10. The rear wing 34 functions as a fluid flow director, directing the air flow 44 under the water conserving apparatus 10. Another of the many novel features of the manifold 26 includes the forward wing 32 which also functions as a fluid flow director. The forward wing 32 directs an

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air and water jet stream **48** onto a surface **50** to be cleaned.” (lines 3-12)

Therefore, the Applicant respectfully suggests that Russell et. al. is not relevant and therefore present invention Claims 4-6, and 9-11 are not obvious.

Therefore, Applicant respectfully requests that Claims 4-6 and 8-11 be allowed.

In addition, since Russell is not relevant, Maasberg cannot be combined with Russell. Moreover, Maasberg describes 5b and 6b as a diffuser and lip (column 3, line 44) to fully compensate for the reactionary force (column 1, lines 37-39). In addition, Maasberg describes the “...jet pump action...”: (column 3, line 7) which requires additional structure to “..hold the arrangement against the surface being treated...” (Column 3, lines 7-9) In contrast, the present invention does not teach a reactionary force, but a low pressure system of “preferred water pressures ... demonstrated to be 40- 80 pounds per square inch (psi). This pressure range is already the range delivered by virtually all known water districts to faucets throughout their service areas. “ (lines 17-20) This pressure is low pressure that does not force the apparatus away from a surface to be cleaned.

Regarding present invention Claims 5, and 9-11, Russell, in view of Maasberg again are relied upon to suggest obviousness in the present invention. Since

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Russell is not relevant, Maasberg cannot be combined with Russell . In addition, Applicant offers the following to argue against obviousness. First, the combination of the 1.1250 inches, the 47 degrees, , 2-3 gallons per minute, and 40-80 psi in combination are not obvious. Second, note the extensive documentation and affidavit provided as enclosures citing great improvement and unexpected results using the present invention in lieu of hoses and other water broom type devices.

Applicant maintains that the combination of these specific parameters and associated structure and operation provide novel improvements over existing art, with the superior and unexpected water savings combined with thorough cleaning.

Therefore, Applicant respectfully requests that Claims 5, and 9-11 be allowed.

Claims 3 and 12-21 are rejected under 35 U.S.C. (103 (a) as being unpatentable over Geel in view of Lumpkin.

Claim 3, 12-15, and 17-21 are canceled.

Regarding Claims 12-16, 12-15 have been incorporated into claim 10.

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Nevertheless, because these claims are incorporated into 10, arguments are appropriate, and include claim 16. Lumpkin discloses a bracket 4 to support a squeegee or blade and structure to adjust the height of the blade so that it rests on a surface. (Column 2, lines 6-17) The present invention does not describe a squeegee or a need for such an element. The present invention provides such a small quantity of water at 3-4 gallons per minute that with less water on the surface, it takes that much less time to dry completely, thereby allowing the surfaces to be more quickly available for customers. In other words, we can infer that since the present invention is used outside, the water is quickly evaporated eliminating the need to brush away standing water. Therefore, Applicant maintains that the features embodied in Claims 12-15, and 16 are not obvious. And Applicant respectfully requests that amended claim 10, and claim 16 be allowed. In addition, regarding present invention elements in former Claims 12 and 13, Applicant suggests that the limitation of the nozzles being at 30 degrees is in combination with the other parameters mentioned above to provide a novel combination of parameters.

Therefore, Applicant respectfully requests that these elements in amended claim 10 be allowed.

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Furthermore, regarding elements in former Claim 13, the Examiner states that “the forward wing is parallel to the spray nozzles in the longitudinal direction of the manifold 15, 16.” It is not clear which prior art is being referred to. If Lumpkin is intended, no forward wing exists. A bracket 4 exists, but it is not parallel to the nozzles 10 of Lumpkin. Furthermore, if the manifold 15, 16 is intended as part of Geel, the Geel patent designates 15 and 16 as horizontally disposed pipes (column 3, lines 6-8). Therefore, Applicant requests that these elements in amended claim 10 be allowed.

With respect to elements in former claim 14, L2 equal to 1.0 inches is not obvious in view of its combination with the other parameters mentioned above. Note again the great improvements and unexpected results cited in the many pieces of documentation and affidavit in enclosure 3. Applicant suggests that this parameter in combination with the others is novel. Therefore, Applicant respectfully requests that these elements in amended claim 10 be allowed.

With respect to Claims 15 and 16 of the present invention, the parameter d of 1.8 inches would not be obvious in combination with all the parameters mentioned above. Note again the great improvements and unexpected results cited in the

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many pieces of documentation and affidavit in enclosure 3. Applicant suggests that this parameter in combination with the others is novel. Therefore, Applicant respectfully requests that these elements in former claim 15, embodied in amended claim 10 and claim 16 be allowed.

Claims 22 and 23 are rejected under 35 U.S. C. (103 (a) as being unpatentable over Geel in view of Nelson.

Applicant suggests that the novel feature of the cone shaped filter claimed in the present invention is not obvious compared to Geel in view of Nelson. Applicant's reasoning is that Nelson is directed to and claims using hand flow limiting orifices (column 5, line 66) and providing a more uniform velocity profile (column 6, lines 9-10) In addition, Nelson is directed to a low noise water spout (column 6, line 48).

On the other hand, the present invention discloses a cone shaped water filter whose primary function is to filter out particulates. As stated in the present invention specification, "Although water filters are customarily inserted in lines to filter out impurities and particulates, the present filter **82** has novel features.

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More specifically, in **Figure 6b**, an enlarged perspective view of the filter **82** is shown. An essentially circular base **84** is formed into an annular ring **86** into which is secured a cone **88**. The cone **88** is manufactured from metal into a porous screen with a grid size which is approximately twice as small as a nozzle orifice (not shown) planned for use in the present invention.

Referring back to **Figure 6a**, one sees that the water **52** flows first against the cone **88**. The cone shape provides a slope down which any particulates slide until contacting the annular ring **86**. Periodically, the user of the present invention can turn off the water **52**, twist open the fixture **15**, and shake any particulates off the annular ring **86**. In this novel manner, it is virtually impossible for the water conserving apparatus **10** to become clogged.”

(lines 8-24 ) Therefore, Applicant respectfully requests that Claims 22 and 23 be allowed.

Claims 1 and 24 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Geel in view of Lumpkin and Nelson.

Applicant repeats his argument regarding Geel in view of Lumpkin. Lumpkin

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discloses a bracket 4 to support a squeegee or blade and structure to adjust the height of the blade so that it rests on a surface. (Column 2, lines 6-17) The present invention does not describe a squeegee or a need for such an element. The present invention provides such a small quantity of water at 3-4 gallons per minute that the water is quickly evaporated eliminating the need to brush away standing water. There is virtually no standing water left when using the present invention. In addition, Applicant suggests that the limitation of the nozzles being at 30 degrees is in combination with the other parameter mentioned above to provide a novel combination of parameters.

Furthermore, the Examiner states that "the forward wing is parallel to the spray nozzles in the longitudinal direction of the manifold 15, 16." It is not clear which prior art is being referred to. If Lumpkin is intended, no forward wing exists. A bracket 4 exists, but it is not parallel to the nozzles 10 of Lumpkin. Furthermore, if the manifold 15, 16 is intended as part of Geel, the Geel patent designates 15 and 16 as horizontally disposed pipes (column 3, lines 6-8).

Also, L2 equal to 1.0 inches is not obvious in view of its combination with the other parameters mentioned above. Note again the great improvements and unexpected results cited in the many pieces of documentation in enclosure 3.



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Applicant suggests that this parameter in combination with the others is novel.

The parameter d of 1.8 inches would not be obvious in combination with all the parameters mentioned above. Note again the great improvements and unexpected results cited in the many pieces of documentation in enclosure 3. Applicant suggests that this parameter in combination with the others is novel.

Applicant repeats his argument regarding Geel in view of Nelson regarding the cone-shaped filter. Applicant suggests that the novel feature of the cone shaped filter claimed in the present invention is not obvious compared to Geel in view of Nelson. Applicant's reasoning is that Nelson is directed to and claims using hand flow limiting orifices (column 5, line 66) and providing a more uniform velocity profile (column 6, lines 9-10) In addition, Nelson is directed to a low noise water spout (column 6, line 48). On the other hand, the present invention discloses a cone -shaped water filter whose primary function is to filter out particulates.

As stated in the present invention specification, "Although water filters are customarily inserted in lines to filter out impurities and particulates, the present filter **82** has novel features. More specifically, in **Figure 6b**, an enlarged perspective view of the filter **82** is shown. An essentially circular base **84** is formed into an annular ring **86** into which is secured a cone **88**. The cone **88** is

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manufactured from metal into a porous screen with a grid size which is approximately twice as small as a nozzle orifice (not shown) planned for use in the present invention.

Referring back to **Figure 6a**, one sees that the water **52** flows first against the cone **88**. The cone shape provides a slope down which any particulates slide until contacting the annular ring **86**. Periodically, the user of the present invention can turn off the water **52**, twist open the fixture **15**, and shake any particulates off the annular ring **86**. In this novel manner, it is virtually impossible for the water conserving apparatus **10** to become clogged.” (lines 8-24 ). Therefore, Applicant maintains that Claims 1, as amended, and 24, as amended, are novel. And Applicant respectfully requests that Claim 1, as amended, and Claim 24, as amended, be allowed.

In summary, therefore, Applicant respectfully requests that original claims 22-23 be allowed. In addition, Applicant requests that amended claims 1, 2, 4, 5, 6, 9-11, 16, and 24 be allowed. Claims 3, 7, 8, 12-15, and 17-21 are canceled.